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# UNIT 4 – EXITS AND OPENING CHECKS

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RAM-AIR PARACHUTE  
TRAINING MANUAL

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BLM SMOKEJUMPERS

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## **CHAPTER 4 – EXITS AND OPENING CHECKS**

This unit will introduce the student to proper exits, the jump count, and after-canopy opening checks. This unit is broken down into 2 lessons: Ram-Air Exits and After-Canopy-Opening Checks.

### **CHAPTER OBJECTIVES**

At the completion of this unit the students must:

1. Demonstrate verbally and physically the four-point check and describe when it must be performed.
2. Demonstrate verbally and with proper timing the Ram-Air Jump Count.
3. Demonstrate physically proper exit techniques.
4. Identify the three components of the After Canopy Opening Checks.
5. Identify and explain the purpose of the “Check my canopy” component.
6. Identify and explain the purpose of the “Check my airspace” component.
7. Identify and explain the purpose of the “Control Check” component.
8. Demonstrate the After Canopy Opening Checks.

### **EQUIPMENT NEEDS**

- 1ea. - Jump aircraft and/or mock-up.
  - 1ea. – LCD projector and/or computer.
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## **Lesson I     RAM-AIR EXIT**

Students will be introduced to proper Ram-Air exits.

### **LESSON OBJECTIVE:**

**At the completion of this Lesson, the students must:**

- **Demonstrate verbally and physically the four-point check and describe when it must be performed.**
- **Demonstrate verbally and with proper timing the Ram-Air Jump Count.**
- **Demonstrate verbally the after canopy opening checks.**

EQUIPMENT NEEDS: have one jumper fully suited up for demonstration

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### **I. Four-Point Check**

Prior to jumping each jumper must complete a "four-point check" of his equipment. The first jumper in a stick will complete the check after getting in the door. The remainder of the stick will complete the check when the spotter gives the "Get in the door" command. The check is made in the same order every time. The jumper should touch each item he is checking as he looks at it. The purpose of the check is to verify that all handles are in the correct location and that the lower RSL is connected.

#### **FOUR-POINT CHECK**

1. drogue release- (Is it in place? Is it visible?)
2. main release- (Is it seated securely?)
3. reserve handle- (Is it in place?)
4. lower RSL- (Is it snapped shut and routed correctly?)

## **II. Jump Count**

The primary purpose of the jump count is to give the jumper a time reference. The count should last five seconds, a time frame that allows the jumper to clear the airplane and to be fully stable under the drogue when deploying the main. The jump-count should begin when the spotter gives the slap.

### **JUMP-COUNT**

- Jump thousand (push yourself out the door)
- Look thousand (look at drogue release handle)
- Reach thousand (reach for drogue release handle)
- Wait thousand (wait for one count)
- Pull thousand (pull drogue release handle)

## **III. Exiting the Aircraft**

Ram-air jumpers exit all jump-ships from a seated position, with the static line hooked to an extender which is connected to an overhead cable. A good exit from the aircraft will minimize the risk of a malfunction by providing clean air for the deploying drogue and ensures good body position for the deployment of the main. Key elements to performing good exits include:

- **Prior to the slap, be square in the door.**

*Reason:* The wind blast acts to push the jumper to the aft side of the door unless the jumper makes a conscious effort to prevent it. Exiting the aircraft from the aft position usually results in a quick left rotation which places the deploying drogue sail/bridle in contact with the helmet or shoulders resulting in an increased potential for a horseshoe type malfunction. Additionally, the deployment of the drogue will be slowed as a result of the jumper's burble.

*Tips:* Placing the left hand in the lower aft corner prior to slap helps to prevent getting pushed to the aft side.

- **Prior to the slap, keep legs tight against the step or aircraft fuselage.**

*Reason:* The wind blast acts to push the jumper's legs downwind. When a jumper exits in this position the legs will be in the vicinity of the deploying drogue. The deploying drogue sail/bridle will often be in contact with the helmet or shoulders resulting in an increased potential for

a horseshoe type malfunction. Additionally, the jumper will often rock back and forth underneath the deployed drogue longer than desirable.

*Tips:* Make a conscious effort to keep legs firmly planted against step or aircraft as soon as you get in the door. This is relatively easy when exiting a Twin Otter but increases in difficulty at higher aircraft exit speeds.

- **Upon slap, push off with both arms equally.**

*Reason:* Pushing off stronger with one arm usually results in the jumper rotating immediately upon exit. This will cause problems similar to not being square in the door.

*Tips:* Being square in the door makes this relatively easy. Jumpers with short arms can utilize the side of the door for hand placement but most jumpers achieve better results when using the corners or the floor. Most problems are caused by not pushing off strong enough with the left arm.

- **Upon slap, focus on leaving the aircraft with an emphasis on a head-down angle of approximately 45-degrees.**

*Reason:* This forward lean allows the best angle for the air flow to cleanly inflate the drogue, and assists the jumper in remaining tucked in a tight body position.

*Tips:* Pivot or rotate out of the aircraft keeping the same body position as you were sitting in the door, but emphasize tipping forward to obtain more of a face down angle.

- **Upon slap, focus on keeping legs tight against the aircraft as you exit.**

*Reason:* Even a momentary lapse in leg strength will result in the legs being blown downwind by the windblast. Legs in the downwind position are the most common cause of poor exits. Problems include the drogue sail/bridle contacting the shoulder and/or helmet, increased potential for horseshoe malfunction, and increased rocking underneath drogue.

*Tips:* None needed.

- **After slap, keep legs tucked up.**

*Reason:* Keeping legs tucked up accomplishes two things. First, it reduces

the size of the jumper's burble. A smaller size burble will result in quicker drogue inflation and better stability under the drogue. Secondly, rocking underneath the drogue will be minimized which may result in better body position upon opening.

*Tips:* None needed.

- **After slap, keep arms tight against body and legs together.**

*Reason:* Minimizes potential for horseshoe malfunctions and spinning while under drogue.

*Tips:* None needed.

#### **IV. After Canopy Opening Checks (Refer to Lesson II for detailed information)**

Assuming that a malfunction has not occurred, the jumper now completes the after opening checks:

1. "Check my canopy"- Does it look right? Is it flying? The jumper's hands should go to the rear risers while he is looking at the canopy.
2. "Check my airspace"- The jumper looks in front and to the sides. Is another jumper approaching? If so, pull on the right rear riser (or anything on the right side) to turn away.
3. "Canopy control check"- The jumper will confirm that the parachute is capable of being safely controlled. The jumper will verbalize "Right turn", "Left turn", and "Stall" while performing these maneuvers. If the canopy cannot be safely controlled then emergency procedures will be immediately initiated.

## **Lesson II After-Canopy Opening Checks**

This lesson explains the proper procedures to perform after completing the jump count and deployment of the main canopy.

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### **LESSON OBJECTIVE**

At the completion of this lesson the student will:

- **Identify the three components of the After Canopy Opening Checks**
- **Identify and explain the purpose of the “Check my canopy” component.**
- **Identify and explain the purpose of the “Check my airspace” component.**
- **Identify and explain the purpose of the “Control Check” component.**
- **Demonstrate the After Canopy Opening Checks**

### **EQUIPMENT NEEDS:**

1 ea. - Flip Chart, Dry Erase Board, or LCD Projector

### **POWERPOINT FILE LOCATIONS:**

AK- See current year RATM file for PowerPoint lessons.

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### **Instructor Notes**

The material is relatively simple but we’ve had at least two jumpers (P. Taylor ’96 and R. Jordan ’02) not perform the procedures as desired with near disastrous results. In both cases, the jumpers failed to execute the “After Canopy Opening Checks” properly. Taylor did not immediately recognize that her canopy was malfunctioning. Jordan mistakenly decided that his canopy was safe to land. It is critical that students have a thorough understanding of the procedures and their purpose.

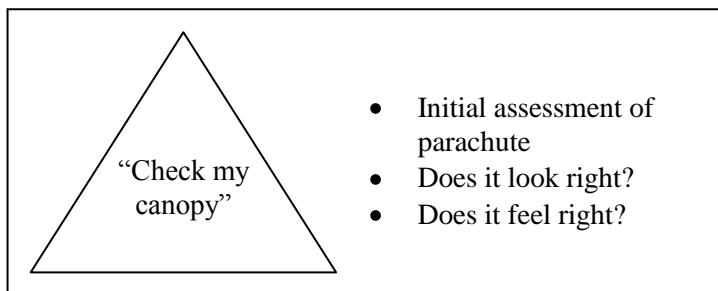
## After Canopy Opening Checks

“After Canopy Opening Checks” are performed to ensure that the main canopy is safe to land and the immediate airspace is clear of other jumpers. The process requires the jumper to make assessments, decisions, and take appropriate actions.

### “Check my canopy”

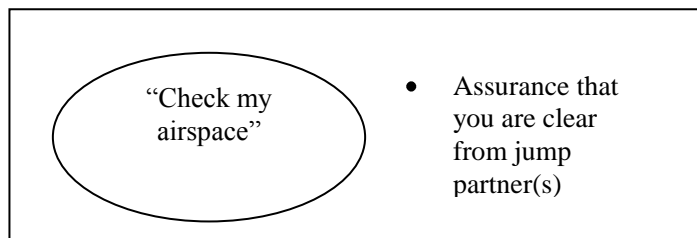
“Check my canopy” is the first step in the process. This is the initial assessment of the parachute. The canopy should look right and feel right to the jumper. Many types of malfunctions will be immediately obvious but some are more subtle. In

cases where the canopy is fully deployed and inflated, it is easy for the jumper to rush through this step. Inspecting both brake lines is a good way to ensure that the entire canopy is viewed in an appropriate time frame. This step should take no longer than 3 seconds. If the canopy looks right and feels right, the jumper can proceed to the next check. If the canopy is bad or absent, the appropriate malfunction procedures must be performed.



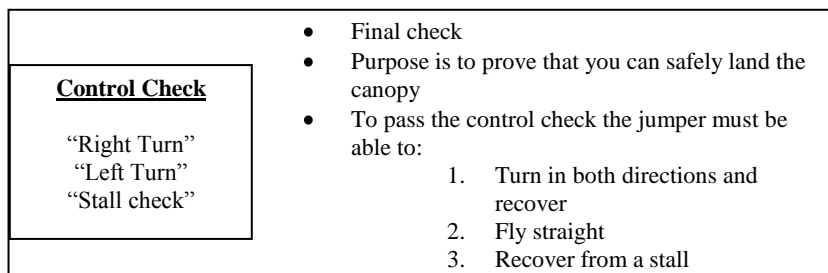
### “Check my airspace”

A clear airspace is critical due to the extremely bad outcomes associated with canopy collisions. The airspace in front of the main canopy’s direction of flight is most critical. With good airspace, the jumper can proceed to the control check. With bad airspace, the jumper needs to take evasive action to avoid a canopy collision prior to performing a control check.



### Control Check (“Right Turn, Left Turn, Stall Check”)

The control check is the final check of the canopy. Its purpose is to prove that you can safely land the canopy. In order for the canopy to pass the control check, the jumper must be able to: 1) Turn in





both directions and recover, 2) Fly straight, and 3) Recover from a stall. If the canopy passes the control check, the jumper can confidently fly to the ground. If the canopy fails the control check, the jumper performs malfunction procedures (3 pumps) once. This is the one and only attempt to clear. If the malfunction procedures fail to fix the problem or if the jumper believes the canopy is unsafe to land, emergency procedures must be initiated immediately. If the problem is fixed or the jumper believes the canopy is safe to land, the jumper must confirm this with the control check. A subsequent control check failure mandates immediately initiating emergency procedures.

